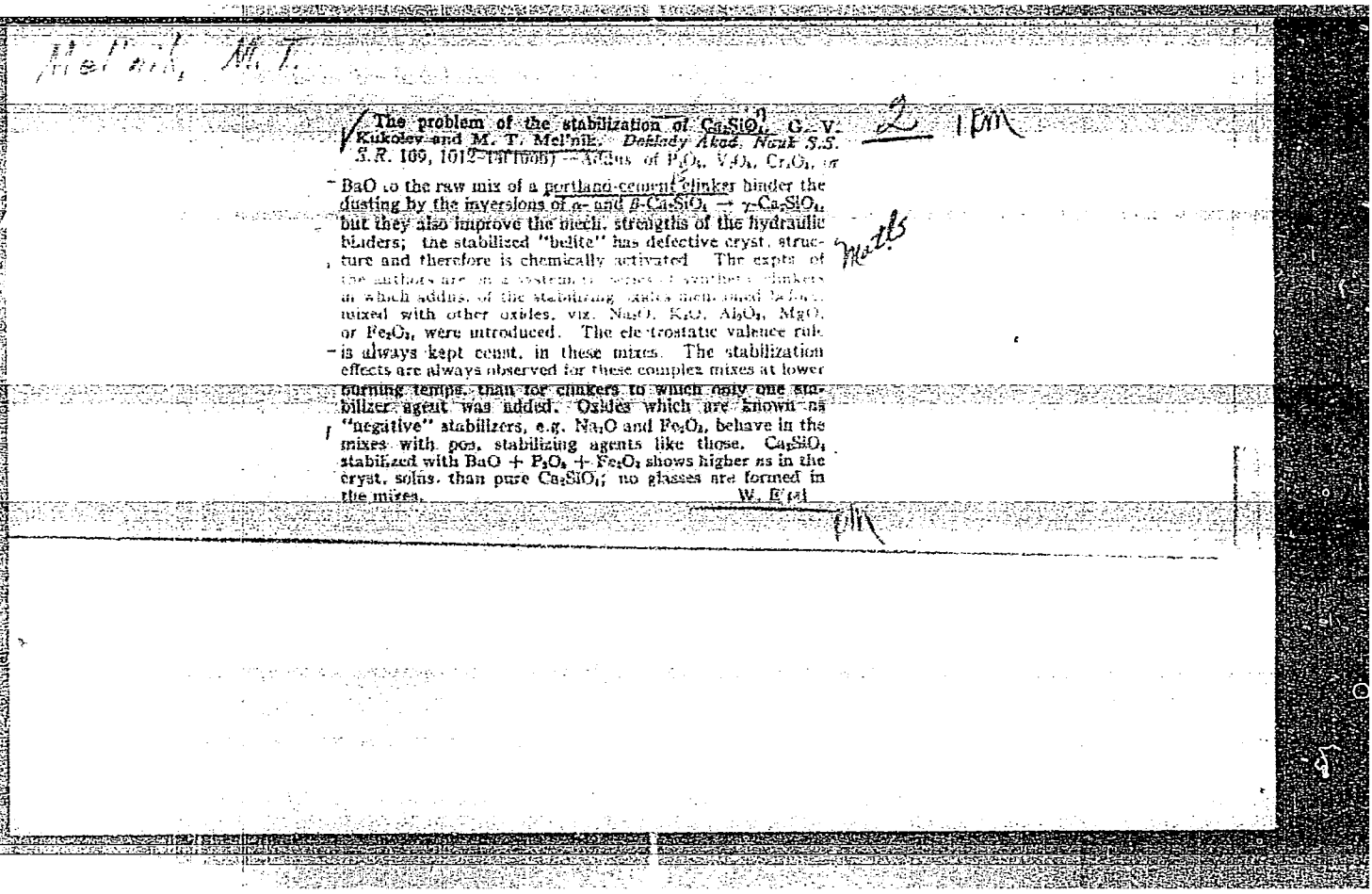
MEL'NIK, M.T.

Dissertation: The Effect of the Formation of Solid Solutions on the Properties of Calcium Silicates." Cand Tech Sci, Khar'kov Polytechnic Inst, Khar'Kov, 1954. (Referativnyy Zhurnal, Khimiya, Moscow, No. 16, Aug 54)

SO: SUM 393, 28 Feb 1955

KUKOLEV, G.V., professor, doktor tekhnicheskikh nauk; MEL'NIK, M.T., kandidat tekhnicheskikh nauk.

Effect of oxides forming solid solutions in dicalcium silicate on the properties of portland cement clinkers. TSement 22 no.1: 16-19 Ja-F '56. (MLRA 9:6)
(Portland cement) (Solutions, Solid) (Oxides)



The problem of the stabilization of Ca_2SiO_4. G. V. Kukolev and M. T. Mel'nik. *Doklady Akad. Nauk S.S.S.R.* 109, 1012–14 (1956). — Additions of P_2O_5, V_2O_5, Cr_2O_3, or BaO to the raw mix of a portland-cement clinker hinder the dusting by the inversions of α- and β-Ca_2SiO_4 → γ-Ca_2SiO_4 but they also improve the mech. strengths of the hydraulic binders; the stabilized "belite" has defective cryst. structure and therefore is chemically activated. The expts. of the authors are in a system of series of synthetic clinkers in which additn. of the stabilizing oxides mentioned before mixed with other oxides, viz. Na_2O, K_2O, Al_2O_3, MgO, or Fe_2O_3, were introduced. The electrostatic valence rule is always kept const. in these mixes. The stabilization effects are always observed for these complex mixes at lower burning temps. than for clinkers to which only one stabilizer agent was added. Oxides which are known as "negative" stabilizers, e.g. Na_2O and Fe_2O_3, behave in the mixes with pos. stabilizing agents like those. Ca_2SiO_4 stabilized with BaO + P_2O_5 + Fe_2O_3 shows higher ns in the cryst. solns. than pure Ca_2SiO_4; no glasses are formed in the mixes. W. E. [illegible]

MEL'NIK, M. T. and G. V. KUKOLEV

"Synthesis and Properties of the Bi-calcium Silicate" p. 407

Transactions of the Fifth Conference on Experimental and Applied Mineralogy and Petrography, Trudy ... Moscow, Izd-vo AN SSSR, 1958, 516pp.

reprints of reports presented at conf. held in Leningrad, 26-31 Mar 1956. The purpose of the conf. was to exchange information and coordinate the activities in the fields of experimental and applied mineralogy and petrography, and to stress the increasing complexity of practical problems.

BEZBORODOV, M.A.; MEL'NIK, M.T.

Some properties of PbO - Al_2O_3 - SiO_2 glasses. Dokl. AN BSSR 3 no.8: 338-340 Ag '59. (MIRA 12:11)

(Glass)

MEL'NIK, M.T.

Dehydration of water-containing glasslike materials. Trudy KhPI 31 no.1:99-101 '59. (MIRA 13:10)
(Dehydration (Chemistry)) (Binding materials)

BESBORODOV, M.A.; HEL'NIK, M.T.

Studying the system $Na_2O - PbO - Al_2O_3 - SiO_2$ in a vitreous state. Dokl.AN BSSR 4 no.1:11-14 Ja '60. (MIRA 13:6)

(Glass)

MEL'NIK, M. T., CAND TECH SCI, "~~INVESTIGATION~~ Study OF THE Na_2O-PbO-Al_2O_3-SiO_2 SYSTEM IN A VITREOUS STATE ~~IN~~ for THE PRODUCTION OF ARTISTS' GLASS PAINTS." MINSK, 1961. (MIN OF HIGHER AND SEC SPEC AND ~~PROFESSIONAL~~ Vocational ED BSSR. BELORUSSIAN POLYTECH INST). (KL-DV, 11-61, 221).

MEL'NIK, M.T.; SHAPOVALOVA, N.N.

Effect of autoclave hardening on the properties of calcium aluminates. TSement 28 no.4:9-10 Jl-Ag '62. (MIRA 15:7)

1. Khar'kovskiy politekhnicheskiy institut.
(Cement--Testing) (Calcium aluminates)

L 36495-63 EPR/EWG(a)-2/EWT(m)/EWP(b)/EWP(t) Ps-4/Pw-4 IJP(c) JD/GS
ACCESSION NR: AT5007740 S/0000/63/000/000/0246/0252

27
28
641

AUTHOR: Kukolev, G.V.; Mel'nik, M.T.; Shapovalova, N.N.; Belik, Ya. G.

TITLE: Synthesis and study of low-basicity calcium aluminates

SOURCE: AN SSSR. Institut khimii silikatov. Silikaty i oksidy v khimii vysokikh temperatur (Silicates and oxides in high-temperature chemistry). Moscow, 1963, 246-252

TOPIC TAGS: calcium aluminate, aluminate basicity, aluminate synthesis, refractory concrete, cement, refractory filler, bohmite, concrete strength, autoclave solidification

ABSTRACT: Experiments were carried out with the object of preparing refractory concretes (solidifying in an autoclave), including lightweight concretes, from refractory fillers and cement made of CA_2 ($CaO \cdot 2Al_2O_3$). Physicochemical tests of the products showed that the high strength of both dense and lightweight samples of such concrete was preserved after they had been heated at 200 - 1400C. Thermographic and microscopic analyses of the hydration products of CA_2 were performed. The three endothermic effects observed on the differential curves of hydrated CA_2 are interpreted. The comparatively high strength of samples of concrete subjected to autoclave solidification is due to the compaction of the gel and particularly of the large amounts of bohmite

Card 1/2

L 38195-65

ACCESSION NR: AT5007740

during their gradual dehydration as the water of hydration is removed from the hydration products without any disturbance of the original cement skeleton. The large amount of bohmite in the products of hydrothermal solidification of aluminate cements provides for a smaller decrease in the strength of samples of concrete during their heating. "The microscopic studies were carried out by Docent Ya. G. Belik." Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 0000063 ENCL: 00 SUB CODE: MT

NO REF SOV: 006 OTHER: 000

Card 2/2

L 40290-66 EWP(e)/EWT(m) WH

ACC NR: AR6014579 (A) SOURCE CODE: UR/0081/65/000/021/B062/B062

AUTHORS: Grishina, N. P.; Mel'nik, M. T.

TITLE: Synthesis and investigation of properties of glass in systems V_2O_5--BaO--PbO and WO_3--MoO_3--P_2O_5

SOURCE: Ref. zh. Khimiya, Abs. 21B439

REF SOURCE: Sb. Stekloobrazn. sostoyaniye. T. 3. Vyp. 4, Minsk, 1964, 74-76

TOPIC TAGS: glass, phosphate glass, specific volume, chemical stability, electric property, electric resistance, semiconductivity, activation energy

ABSTRACT: Physical, chemical, and electrical properties of glass formed in systems V_2O_5--BaO--PbO and WO_3--MoO_3-P_2O_5 were investigated. Glass of the system V_2O_5--BaO--PbO is practically unaffected by boiling water. Specific volume resistance varies within limits 10^6 to 10^{12} ohm cm. Activation energy of the current carriers, determined from the temperature dependence of the electrical resistance, is 0.15--0.41 electron-volts. Chemical stability of the WO_3--MoO_3--P_2O_5 glass in water varies from 1.52 to 70% and specific electrical resistance at 20C from 10^7 to 10^{12} ohm cm. Activation energy is 0.18--0.55 electron-volts. Curves of the temperature vs log of conductivity for glasses of both systems are characteristic for semiconductors. Ya. Shenkin [Translation of abstract]

SUB CODE: 11,07

Card 1/1

L 38931-66 EWT(m)/EWP(j)/EWP(e)/T RM/WH/WW

ACC NR: AP6012255 (A) SOURCE CODE: UR/0072/65/000/012/0012/0013

AUTHOR: Matveyev, M. A. (Doctor of technical sciences); Mel'nik, M. T. (Candidate of technical sciences); Glasova, M. P. (Engineer)

ORG: Institute of General and Inorganic Chemistry, AN BSSR (Institut obshchey i neorganicheskoy khimii AN BSSR)

TITLE: Synthesis and investigation of the electrical and other properties of glasses of the V_2O_5-CdO-P_2O_5 system

SOURCE: Steklo i keramika, no. 12, 1965, 12-13

TOPIC TAGS: glass property, electric resistance, thermal emf, semiconductivity, vanadium compound

ABSTRACT: The authors synthesized 36 glass compositions in the V_2O_5-CdO-P_2O_5 system and established the region of vitrification. The glasses were founded in a Silit furnace at 900—1200C. They had a dark color and most were distinguished by a tendency toward crystallization. The working properties of the glasses were improved by increasing the content of P_2O_5. The chemical resistance of the glasses with respect to boiling water, the temperature at the start of softening, the electrical resistance, and thermal emf was studied and the

UDC: 666.264.1.3

Card 1/2

ACC NR: AP6012255

reactivation energy of the current carriers was calculated. The glasses containing 60 mol.% and more V_2O_5 had the lowest chemical resistance. They completely dissolved in water upon boiling. The softening point of these glasses changed depending upon the composition in the 300—600C range and increased with an increase of V_2O_5 concentration. The investigated glasses had a definite thermal emf varying from 100 to 350μ $V \cdot deg^{-1}$. The electrical conductivity of the glasses of this system increased with an increase of V_2O_5 in the glass or with an increase of the ratio V_2O_5: P_2O_5. The results of these experiments can be useful in the theoretical elaboration of the problems of vitrification and the mechanism of conductivity of amorphous semiconductors, and the glasses with semiconductor properties are of definite interest in studying the role of the "short-range order" in the electrical properties of vitreous substances. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: None /ORIG REF: 006/ OTH REF: 003

Card 2/2

KUT'KO, L.F.; MEL'NIK, M.Ya.; POLESKO, Yu.A.

Effect of fertilizers on the number of soil micro-organisms and grape yields. Agrobiologiia no.2:265-270 Mr-Ap '64. (MIRA 17:6)

1. Nizhnedneprovskaya nauchno-issledovatel'skaya stantsiya po obleseniyu peskov i vinogradarstva na peskakh, g. TSyurupinsk.

MEL'NIK, N., izobretatel' (g. Kizel Permskoy oblasti)

New engines for new designs. Tekh. mol. 31 no.6:34 '63. (MIRA 16:7)

(Internal combustion engines—Technological innovations)

AKSENOV, V.P., kand.tekhn.nauk; MEL'NIK, N.A., inzh.

Establishing the optimum length of the front of an open pit when using conveyer haulage of the overburden. Nauch. zap. Ukrniiproekta no.2:109-117 '60. (MIRA 15:1)

(Conveying machinery)

AKSENOV, V.P., kand.tekhn.nauk; MEL'NIK, N.A., inzh.

Establishment of an efficient annual rate of production in manganese pits of the Nikopol' deposit. Nauch.zap.Ukrniiproekta no.5:96-104 '61. (MIRA 15:7)
(Nikopol' region--Strip mining)

MEL'NIK, N.A.; ZEL'TSER, N.M.

Determination of the consumption of electric power by belt conveyors. Nauch.zap.Ukrniiproekta no.5:144-150 '61. (MIRA 15:7)
(Conveying machinery) (Electric power)

MEL'NIK, N. M.

Viticulture - White Russia

Developing young plants in northern grape regions. Vin. SSSR 12 No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952, UNCLASSIFIED.

MEL'NIK, N.M.

State grape farm in White Russia. Vin.SSSR 15 no.3:52-54 '55.
(MLRA 8:8)

1. Sovkhoz "Grandichi" Ministerstva sovetskikh khozyaystv.
(White Russia--Viticulture)

SIGRIST, A.V.; MEL'NIK, N.N.

Lowering the toxicity of aminazine by means of ascorbic acid (experimental study). Vop. psikh. no.4:231-235 '60. (MIRA 15:2)
(CHLORPROMAZINE--TOXICOLOGY) (ASCORBIC ACID)

L 4953-66 EWT(1)/EWA(j)/EWA(b)-2 JK

ACC NR: AP5025712 SOURCE CODE: UR/0286/65/000/018/0067/0067

AUTHORS: Mitin, N. I.; Petrov, Yu. I.; Syurin, V. N.; Mel'nik, N. N. 24 23

ORG: none

TITLE: Strain LT of plague of cattle. Class 30, No. 174765

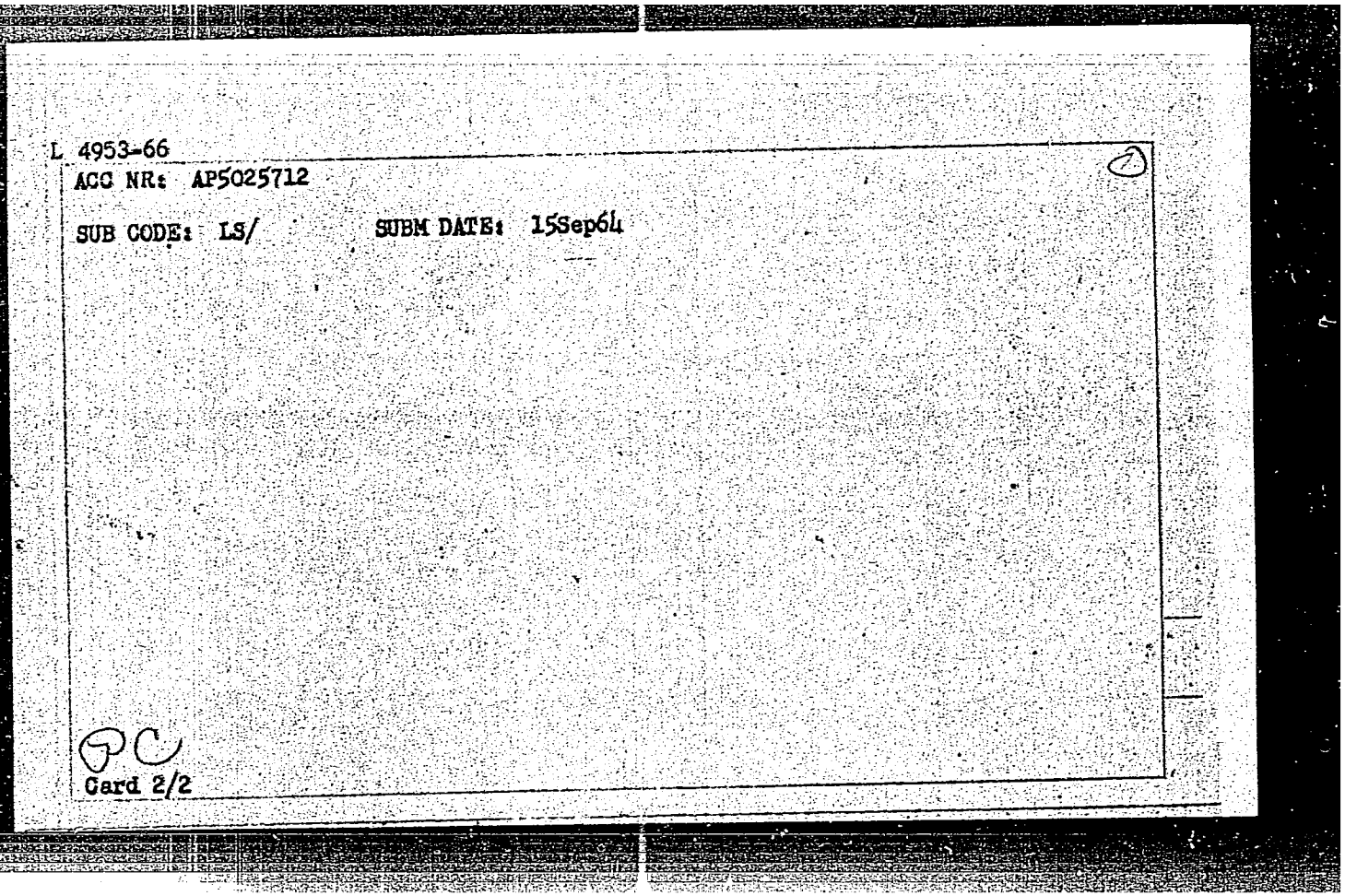
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 67

TOPIC TAGS: virus LT, cattle, immunity

ABSTRACT: This Author Certificate describes the strain LT of the plague of cattle, 1964. Culture properties: grown on a culture of cattle kidney cells. Causes cytopathogenic action with formation of symplasts, internuclear and cytoplasmatic inclusions on the 4th to 9th day after virus injection. Titer 10^5, TsPD 50/ml. Reactogenic properties: causes a light temperature reaction in affected cattle. Antigenic properties: causes the formation of virus-neutralizing and complement-fixing antibodies. Immunogenic properties: causes in animals a sustained immunity to epizootic virus according to the type of interference. Nonreversible; non-contagious.

Card 1/2 UDC: 576.858.7:619:616.998.27

0901584



L 4953-66
ACC NR: AP5025712
SUB CODE: LS/ SUBM DATE: 15Sep64

PC
Card 2/2

LEBEDEV, P.V.; MEL'NIK, N.S.

Effect of soil moisture and nitrogen fertilizers on the periodicity of shoot formation in the meadow fescue (Festuca pratensis). Nauch.dokl.vys.shkoly; biol.nauki no.3:186-191 '59. (MIRA 12:10)

1. Rekomendovana kafedroy botaniki Ural'skogo gosudarstvennogo universiteta im. A.M.Gor'kogo.
(Fescue grass) (Plants, Effect of nitrogen on)
(Soil moisture)

LEBEDEV, P.F.; MEL'NIK, N.S.

Effect of nitrogen and light intensity on tillering and productivity of the timothy grass (Phleum pratense L.). Dokl. AN SSSR 137 no.1: 224-227 Mr-Ap '61. (MIRA 14:2)

1. Ural'skiy gosudarstvennyy universitet im. A.M. Gor'kogo. Predstavleno akademikom A.L. Kursanovym.
(Timothy grass) (Plants, Effect of light on)
(Plants, Effect of nitrogen on)

LEBEDEV, P.V.; MEL'NIK, N.S.; BOROVSKAYA, T.A.

Effect of cultivation conditions on the development of wild meadow grasses. Bot. zhur. 49 no.3:404-412 Mr '64.
(MIRA 17:3)

1. Ural'skiy gosudarstvennyy universitet, Sverdlovsk.

LEBEDEV, P.V.; MEL'NIK, N.S.; BOROVSKAYA, T.A.

Effect of the nitrogen nutrition level on the tillering and productivity of meadow grasses. Zap. Sverd. otd. VBO no.3: 111-119 '64 (MIRA 18:2)

ROMANENKO, I.N., prof.; CHAYKOVSKIY, A.F.[Chaikovs'kyi, A.F.], kand. ekon. nauk; MEL'NIK, O.K.[Mel'nyk, O.K.], st. nauchnyy sotr.; USTINOVSKAYA, L.T.[Ustynovs'ka, L.T.], kand. sel'khoz. nauk; SERIDKO, A.M., kand. biol. nauk; ZHADAN, I.I., kand. sel'khoz. nauk; SEREDENKO, B.M., kand. tekhn.nauk; NIZHNIY, M.I., kand. ekon. nauk; OBZHELYANSKIY, S.Ya.[Obzhelians'kyi, S.IA.], kand. ekon. nauk; PUDENKO, G.I.[Pudenko, H.I.]; LYSYY, Yu.B. [Lysyi, IU.B.], red.; POTOTSKAYA, L.A.[Pototska, L.A.], tekhn. red.

[Intensified specialization of farm production within a district as exemplified by Khorol District, Poltava Province] Ukrains'kyi naukovo-doslidnyi instytut ekonomiky i organizatsii sil's'koho hospodarstva. Vnutriraionna pohlyblena spetsializatsiia sil's'-kohospodars'koho vyrobnytstva; na prykladi Khorol's'koho raionu, Poltavs'koi oblasti. Kyiv, Vyd-vo UASHN, 1962. 222 p. (MIRA 16:5)

1. Kiev. Ukrains'ka Akademiya sil'skohospodars'kykh nauk. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Romanenko). 3. Nachal'nik Khorol'skogo teritorial'nogo proizvodstvennogo kolkhozno-sovkhoznogo upravleniya, Poltavskaya oblast' (for Pudenko).
(Khorol District--Agriculture)

SOV/109-3-8-13/18

AUTHORS: Arshanskaya, N.G., Ban'kovskiy, N.G., Gorina, M.Yu., Mel'nik, O.N., Serova, N.N. and Legkova, A.A.

TITLE: ~~Thorium-oxide~~ Cathodes for Power Tubes (Oksidno-toriyevyy katod dlya moshchnykh generatornykh lamp)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 8, pp 1064 - 1072 (USSR)

ABSTRACT: The preparation of the actual thorium-oxide cathodes was effected by the method of electrophoresis, which permitted the manufacture of robust coatings with a smooth surface on various types of the cathode core. The core material for the cathodes was tantalum, since its expansion coefficient is approximately equal to that of thorium oxide. The cores were de-greased, etched, washed and then de-gassed at a temperature of 1,600 °C. Since the attempts to obtain satisfactory coatings by the normal, cataphoretic method were unsuccessful, an ultrasonic-type mixing of thorium-oxide suspension was employed. This was very successful and permitted obtaining coatings of about 40 μ (16 mg/cm^2) . The cathode cores were either ribbon-like

Card 1/4

or were in the form of troughs. In either case, they were coated by the cataphoretic-ultrasonic method by employing the so-called technique of "extended meniscus". In this technique, the cathode core is placed horizontally in the vicinity of the surface of the coating suspension and the cathode is lowered until it very nearly touches the substance. In this way, a meniscus is formed; the cathode is then pulled away. The cathodes thus prepared were investigated in three types of experimental tubes. The construction of the first tube (a diode) is shown in Figure 2; this is furnished with a cathode in the form of a cup. The second diode employs a directly heated ribbon-like cathode and its construction is illustrated in Figure 3. This cathode had an emissive surface of 0.5 cm^2 . The third tube had a filamentary cathode, having a diameter of 100 μ, which was coated with an oxide to a thickness of 15-40 μ. The temperature of the cathodes in the first two tubes was measured by means of an optical micropyrometer, while the temperature of the filamentary cathode was determined from the change of the filament resistance. The influence

of the activation temperature on the emission characteristics of the cathodes is illustrated in Figures 5 and 6. The three curves of Figure 5 are the Richardson curves for a cathode based on a molybdenum core; Curves 1 and 2 are for cathodes activated at 1600 and 1800 °K, respectively, while Curve 3 is for a cathode activated at 2,000 °K. Figure 6 shows a family of static characteristics; Curve 2 was taken at a temperature of 1 820 °K after a purely thermal activation at a temperature of 1 960 °K, while the remaining curves were taken at various temperatures after the cathode had been activated at a current density of 0.6 A/cm^2 and a temperature of 1 880 °K. The thermal emission constants of well-activated cathodes were determined from the Richardson graphs (Figure 9) and it was found that the work function was 2.2 to 2.4 eV, while the Richardson constant was about 0.5 to 5 A/cm^2 per degree^2. The emission characteristics were also taken by means of short pulses (less than 100 μs) and these are shown in Figure 9 for various activating temperatures. From the curves, it was found that at a

Thorium-oxide Cathodes for Power Tubes SOV/109-3-8-13/18

temperature of 1 860 °K, the maximum emission density in the static regime is about 1.5 A/cm^2, while in the pulse operation, it is about 2-3 A/cm^2; at temperatures of 2,000 - 2 100 °K, the pulse emission was 8-9 A/cm^2. The cathodes were also subjected to life tests and it was found that a thorium-oxide layer of about 40 μ gives a useful life of 500 hours at a current density of 0.6 A/cm^2. It was further found that the cathodes do not lose their emission even if the vacuum inside the tubes becomes as low as 5 x 10^{-5} mmHg. There are 9 figures and 12 references, 7 of which are English, 4 French and 1 Soviet.

SUBMITTED: January 29, 1958

Card 4/4 1. Oxide cathodes--Properties 2. Oxide cathodes--Preparation
3. Thorium oxide--Applications 4. Tantalum--Applications

ACCESSION NR: AP4038622 S/0109/64/009/004/0710/0715

AUTHOR: Davy*dov, V. S.; Mel'nik, O. N.

TITLE: Semiconductor logarithmic amplifier

SOURCE: Radiotekhnika i elektronika, v. 9, no. 4, 1964, 710-715

TOPIC TAGS: logarithmic amplifier, semiconductor amplifier, piecewise linear characteristic, transistor, diode

ABSTRACT: Instead of using a large number of identical diode cells in tandem to synthesize a piecewise-linear logarithmic amplifier characteristic, all the non-linear elements are concentrated in the proposed amplifier in a single stage. The use of series-connected transistors with opposite conductivities provides a high output resistance, a large dynamic current range, and additional symmetry. The proposed circuit (see Fig. 1 of Enclosure) is analyzed and a design procedure is outlined. The output resistance attained with standard transistors is 300--500 KΩ and the range of input signals on the logarithmic part of the voltage-current characteristic (see Fig. 2 of Enclosure) is 60 dB. The slope of the characteristic (2.1 V/de-

Card 1/4

ACCESSION NR: AP4038622

cade) and the deviation from logarithmic variation reaches 1 dB. The temperature instability at 50C is about 0.5 dB. Laboratory tests indicate that the high time stability of the characteristics and the good reproductibility when different elements are used make the amplifier suitable for measurement purposes. Orig. art. has: 6 figures and 9 formulas.

ASSOCIATION: None

SUBMITTED: 04Feb63 ENCL: 02

SUB CODE: EC NO REF SOV: 002 OTHER: 002

Card 2/4

ACCESSION NR: AP4038622

ENCLOSURE: 01

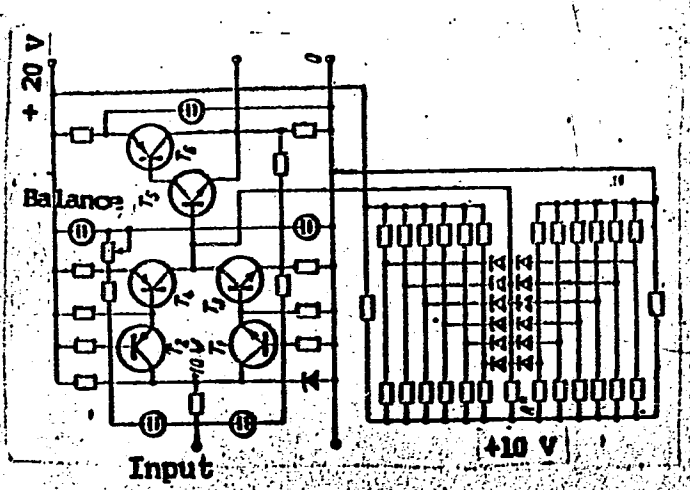


Fig. 1. Semiconductor logarithmic amplifier

Card 3/4

ACCESSION NR: AP4038622

ENCLOSURE: 02

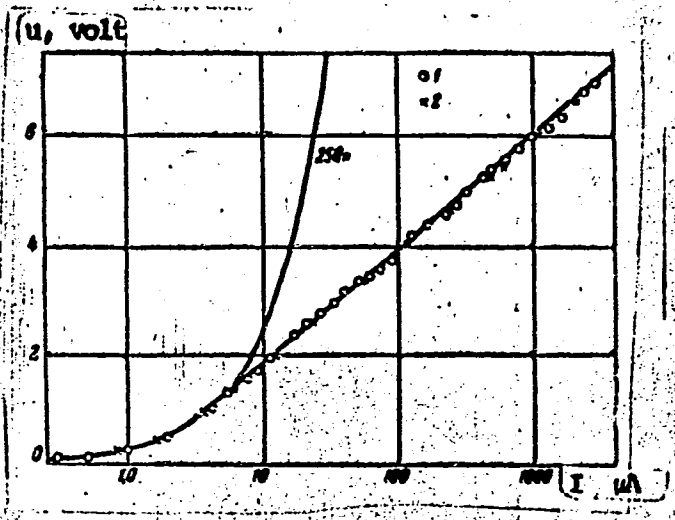


Fig. 2. Voltage-current characteristic of logarithmic cell of silicon diodes (8 point-contact and 4 junction diodes), measured with direct current. (1 - 20C, 2 - 50C)

Card 4/4

KHIDEKELI, Arkadiy Vladimirovich; MEL'NIK, O.P. [Mel'nyk, O.P.], red.; GURVICH, O.G. [Hurvych, O.H.], tekhn. red.

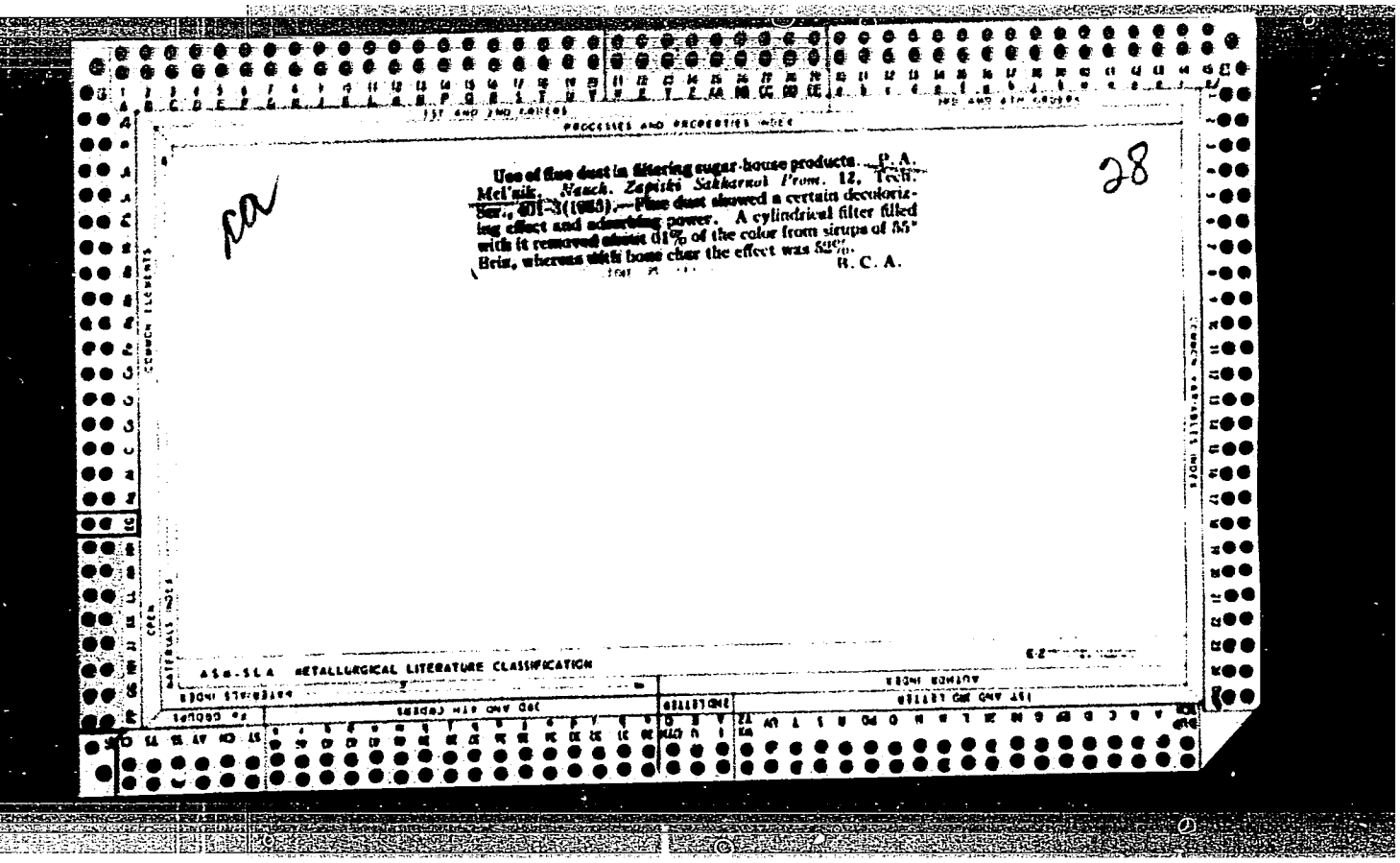
[It was invented in Kiev] Adresa vynakhodu - Kyiv. [Kyiv], Kyivs'ke oblasne knyzhkovo-gazetne vyd-vo, 1962. 58 p. (MIRA 16:3)

(Electric welding) (Electronics)

PONOMARENKO, L.I., sanitarnyy vrach; MEL'NIK, O.T., inzh.; KLAPTSOVA, Ye.N., sanitarnyy vrach; ZNACHKO, A.M., khimik

Problem of "relatively clean" sewage of sugar mills. Gig.i san. 26 no.12:66-68 D '61. (MIRA 15:9)

1. Iz Krasnodarskoy krayevoy sanitarno-epidemiologicheskoy stantsii i Gosudarstvennogo tresta po vyrashchivaniyu sakharnoy svekly Krasnodarskogo soveta narodnogo khozyaystva.
(SUGAR INDUSTRY--HYGIENIC ASPECTS) (KUBAN--WATER--POLLUTION)



PROCESSES AND PROPERTIES INDEX

28

Use of fine dust in filtering sugar-house products. P. A. Mel'nik. *Nauch. Zapiski Sakharnoi Prom.* 12, Tech. Sat., 401-3(1935).—Fine dust showed a certain decolorizing effect and adsorbing power. A cylindrical filter filled with it removed about 61% of the color from sirups of 55° Brix, whereas with bone char the effect was 82%. H. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

Crystallization of green sirup without boiling a second massecuite. P. A. Mel'nik. *Sakharnaya Prom.* 25, No. 10, 12-13(1951).—Lab. expts. showed that green sirup with a purity over 80 will crystallize in 7-8 hrs. upon cooling to 20° and will yield about 30-40% of crystals and a mother liquor of about 77 Purity. V. E. Raikow

1. MEL'NIK, P. A.

2. USSR (600)

4. Insulation (Heat)

7. Insulation from local materials, Sakh. prom., 27, no. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

MEL'NIK, P.A.

Limestone wastes area valuable building material. Sakh.prom.30 no.10:48-49 O '56. (MIRA 10:1)

1.Korovinetskiy sakharnyy zavod.
(Limestone) (Building materials)

MEL'NIK, P.A.

USSR/Chemical Technology - Chemical Products and Their Application. Carbohydrates and Refinement. I-11

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2777

Author : Ostapenko, V.N., Mel'nik, P.A., Agronskiy, I.M.
Inst : -
Title : Comparative Tests of the Maceration-Diffusion Procedure of Operation of the Diffusion Battery.

Orig Pub : Salharnaya prom-st', 1957, No 3, 41-43

Abstract : The performance indices are given for two identical 14-diffuser batteries, one of which was operated in the conventional manner anf the other according to the maceration-diffusion method (in the two initial diffusers, disconnected from the system, a preliminary steeping of fresh chips in juice, was carried out). It was found that on using partially dried and frozen beets: 1) output of the battery operated according to the maceration-diffusion method was, on the average, higher by 11.4%, and juice circulation

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application. Carbohydrates and Refinement. I-11

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2777

therein greater by 13% (less resistance to the flow of the juice through the apparatus); 2) sugar losses, pH and quality of the recovered juice, as well as distribution of sugar concentration in the juice throughout the battery, were practically the same in both systems. In the processing of spoiled and frozen beets the maceration-diffusion method has some advantages over the conventional method.

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MEL'NIK, P.A.

Centrifugal screen made from stainless steel wire. Sakh. prom. 31 no.1: 63 Ja '57. (MLRA 10:4)

1. Korovinetskiy sakharnyy kombinat.
(Centrifuges) (Wire screens)

MEL'NIK, P.A.

Structural defects of the beet washer designed by Dobrovol'skii.
Sakh.prom. 32 no.9:47-48 S '58. (MIRA 11:11)

1. Korovinetskiy sakharnyy zavod.
(Sugar industry--Equipment and supplies)

MEL'NIK, P.A.

Nozzles for washing the lime cake in vacuum filters. Sakh. prom. 37 no.5:45-47 My '63. (MIRA 16:6)

1. Zhdanovskiy sakharnyy zavod.
(Filters and filtration—Equipment and supplies)

MEL'NIK, P.A.

Use of filtrate as a fertilizer. Sakh. prom. 37 no.8:71 Ag '63. (MIRA 16:8)

1. Glavnyy inzh. Zhdanovskogo sakharnogo zavoda.
(Sugar industry—By-products)
(Fertilizers and manures)

PRISHLYAK, V.Z.; KOBLAY, D.S.; DIK, I.I.; PUZIY, Ya.S.; YAREMENKO, I.A.; KOLESNIK, G.K.; DEGERIN, E.R.; MEL'NIK, P.A.

From the editor's mail. Sakh. prom. 36 no.9:68-70 S '62. (MIRA 16:11)

1. Khodorovskiy sakharnyy kombinat (for Prishlyak). 2. Shpanovskiy sakharnyy zavod (for Koblay). 3. Kanevskiy sakharnyy zavod Krasnodarskogo kraya (for Dik). 4. Korenovskiy sakharnyy zavod Krasnodarskogo kraya (for Puziy). 5. Sumskoy sakharnyy trest (for Yaremenko). 6. Leningradskiy sakharnyy zavod Krasnodarskogo kraya (for Kolesnik). 7. Kurskiy sovet narodnogo khozyaystva (for Degerin). 8. Zhdanovskiy sakharnyy zavod (for Mel'nik).

MEL'NIK, P.A.

Control and measuring instruments. Sakh. prom. 38 no.2:67-68 F '64. (MIRA 17:3)

1. Zhdanovskiy sakharnyy zavod.

MEL'NIK, P.A.

Simple method of determining the lower border of a pathologically enlarged liver. Vrach. delo no.1:138 Ja'64
(MIRA 17:3)

1. Berezhanskoye meditsinskoye uchilishche Ternopol'skoy oblasti.

37100

S/056/62/042/004/006/037
B102/B104

24.7700
9.4178

AUTHORS: Lifshits, T. M., Kogan, Sh. M., Vystavkin, A. N., Mel'nik, P. G.

TITLE: Some effects induced by r-f irradiation in n-type indium antimonide

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 4, 1962, 959-966

TEXT: Some effects were studied which arise in n-type InSb at 4.2°K when irradiated with r-f electromagnetic waves of the mm-band. The samples were placed in a helium kryostat between the pole-pieces of an electromagnet and were irradiated by $75 \cdot 10^9$ cps modulated with 1000-cps square pulses; the irradiation intensity was $\sim 10^{-5}$ w/cm^{-2}. The carrier concentration in the samples at 80°K was $6.5 \cdot 10^{14}$ cm^{-3}; their mobility was $4 \cdot 10^4$ cm^2/v·sec. The volt-ampere characteristics were taken at several transverse magnetic field strengths; in not too weak electrical fields the conductivity increases with the field, a fact which agrees with the assumption that in

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S/056/62/042/004/006/037
B102/B104

Some effects induced by r-f ...

n-type InSb scattering from ionized impurities is predominant at 4.2°K. In weak fields the characteristics are nonlinear; the authors restrict themselves to positive nonlinearities, characterized by $\beta = [\sigma(E)]^{-1} d\sigma/dE^2$, σ being the conductivity. The emf observed is studied in connection with the following effects: (a) The bolometric effect (heating of the sample by irradiation): no indication. (b) Impurity photoeffect: no indication. (c) Effects at the contacts and the crystal grain boundaries: Effects are unclear; it is improbable that they play a role. (d) Heating of the electron gas by irradiation (change of the energy distribution of the conduction electrons): The emf signal observed in non-zero magnetic field and $v = 0$ (which cannot be attributed to an impurity photoeffect) is due to an electron-temperature gradient and can be considered as a kind of Nernst-Ettingshausen effect. Semiquantitative estimates and theoretical considerations lead to conclusion that, with and without magnetic field, the emf observed is indeed an "electronic" emf, caused by different electron temperatures at the crystallite faces. There are 7 figures.

ASSOCIATION: Institut radiotekhniki i elektroniki Akademii nauk SSSR (Institute of Radio Engineering and Electronics of the Academy of Sciences USSR)

Card 2/3

S/056/62/042/004/006/037
B102/B104

Some effects induced by r-f ...

SUBMITTED: November 4, 1961

Card 3/3

S/120/63/000/001/059/072
E039/E420

AUTHORS: Vystavkin, A.N., Mal'nik, P.G.

TITLE: An input cascade for measuring small emf's from a low resistance source

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1963, 189-190

TEXT: In order to investigate the noise properties of semiconductors at low temperatures and for other similar investigations it is necessary to measure extremely small emf's of the order of 10^{-10} V from a low resistance source. A design for the input cascade to a close coupled RF amplifier having an equivalent noise resistance of 200 to 300 ohms is described. This input cascade is placed inside one electrostatic and two magnetic shields. The latter consist of a lead and a steel cylinder. The whole cascade is immersed in liquid helium in the immediate neighbourhood of the sample on which noise measurements are being carried out. A reduction of 60 to 70% in the magnetic field is effected by the steel cylinder and the remainder is removed by the lead which is superconducting at the liquid helium temperature. The results show a linear relationship between the square of the emf and the

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resistance. This input cascade is suitable for measuring the emf of thermal noise in a resistance of 20 ohms at 4.2°K or a sinusoidal emf of 5 to 7 x 10^{-11} V. This is equivalent to the emf of thermal noise in a resistance of 0.3 ohm at room temperature. There is 1 figure.

SUBMITTED: April 7, 1962

L 10369-63 EWT(l)/BDS/EEC(b)-2--AFFTC/ASD/ESD-3--Pi-4--IJP(C)

ACCESSION NR: AP3000997 S/0109/63/008/006/0994/1001

AUTHOR: Vystavkin, A. N.; Kogan, Sh. M.; Lifshits, T. M.; Mel'nik, P. G. 64

TITLE: Electronic thermomagnetic effect 21

SOURCE: Radiotekhnika i elektronika, v. 8, no. 6, 1963, 994-1001

TOPIC TAGS: Electronic thermomagnetic effect, InSb single crystal specimen, electron concentrations, magnetic field, liquid helium temperature, cavity resonator, sensitivity, radiated power

ABSTRACT: The electronic thermomagnetic effect in InSb n-type single crystal 21 specimens has been investigated. Specimens (5 x 5 x 0.8 mm) with an electron concentration of 10 sup 14 cm sup -3 and a mobility of 0.5 x 10 sup 4 to 5 x 10 sup 4 cm sup 2/v x sec at T sub 0 = 4.2K (without magnetic field) were inserted into a cavity cooled by liquid helium. A generator provided a signal of 75 Gc and was modulated by a 1 kc square wave. The appearance of an emf across the specimen terminals caused by the applied signal was observed only in the presence of a permanent magnetic field. With an increase in the intensity of the magnetic field the emf also increased and at H approximately

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L 10369-63
ACCESSION NR: AP3000997

0

equal to 1700 oe, reached its maximum and then dropped again. It follows from the amplitude characteristics obtained that the photoresponse of the electronic thermomagnetic effect remains linear up to the signal level of 2 x 10 sup -4 w. Sensitivity was determined to be 500 v/w for specimens with carrier concentration of 10 sup 14 cm sup -3. The noise level of samples within the limits of measurement accuracy (plus or minus 50%) was found to be equal to the internal thermal resistance noise of the specimens. Consequently, the minimum detected radiated power with a signal-to-noise ratio equal to unity was 2 x 10 sup -13 w. The inertia of the electronic thermomagnetic effect, which is determined by the transfer time of excessive electron energy to the lattice, was found to be less than or equal to 3 x 10 sup -7 sec. It was noted that the described effect depends very little on the frequency and could therefore be observed during bombardmnt of the specimen by radiation over a broad spectrum. Orig. art. has: 4 figures and 23 formulas.

ASSOCIATION: none

SUBMITTED: 12Feb63 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 004 OTHER: 001

Card 2/2 ch/ea

L 31371-65 EWT(m)/EPF(c)/EWP(t)/EWP(b) Pr-4 IJP(c) JD

ACCESSION NR: AP5005362 S/0109/65/010/002/0383/0384

AUTHOR: Mel'nik, P. G.

TITLE: Measurement of the inertia effect of the heating of electron gasses in n-type indium antimonide

SOURCE: Radiotekhnika i elektronika, v. 10, no. 2, 1965, 383-384

TOPIC TAGS: electron gas heating, EM radiation measurement, semiconductor carrier current, indium antimonide semiconductor, shf field effect

ABSTRACT: An investigation was made of the inertia of an n-type InSb detector in which the effect of conductivity variation during the heating of the electron gas with a shf field is utilized. The InSb specimens were cooled to the temperature of liquid helium and had a free carrier concentration of approx 5 x 10^{13} cm^{-3}. [illegible] oscillator, the specimen, and the crystal detector controlling the power [illegible] and the per cent modulation were connected to the arms of a double T-bridge. [illegible] 1 of Enclosure.) Power applied from the shf oscillator was modulated by [illegible] The emf of the photoresponse generated in the specimen circuit at a modulation frequency of shf radiation was transmitted to an amplifier and measuring instrument. Studies were made in the 4-millimeter range by the pulse method and

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L 31321-65
ACCESSION NR: AP5005362

by measuring the dependence of the heating effect on the modulation frequency. With the first method, the photoresponse generated in the specimen reproduced the [illegible] frequency of the pulse-modulated shf signal, and photoresponse inertia [illegible] from the pulse-front duration. With the second method, amplitude modulation within 10 kc—10 Mc was effected by a varactor to which modulating [illegible] had been applied. Results with the pulse method showed that the time [illegible] electron-gas energy dissipation during heating did not exceed 10^{-7}—3 x 10^{-7} sec. The second method yielded more accurate results: τ was determined as 0.6 x 10^{-7} sec. Orig. art. has: 2 figures and 2 formulas. [DW]

ASSOCIATION: none

SUBMITTED: 27Jan64 ENCL: 01 SUB CODE: EC, NP

NO REF SOV: 003 OTHER: 003 ATD PRESS: 3198

Card 2/3

L 31321-65

ACCESSION NR: AP5005362 ENCLOSURE: 01

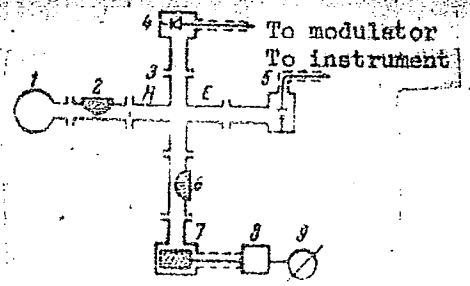

Fig. 1. Experimental setup

1 - Shf oscillator; 2, 6 - attenuation meters; 3 - double T-bridge; 4, 5 - crystal detectors; 7 - cavity with specimen; 8 - amplifier; 9 - measuring instrument.

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L 58950-65 EWT(m)/T/EWP(t)/EWP(b) JD

ACCESSION NR: AP5019097 UR/0286/65/000/012/0114/0114
621.78

13
B

AUTHOR: Zemskov, G. V.; Mel'nik, P. I.

TITLE: Case-hardening of metals and alloys in powder mixture. Class 48, No. 172170

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 114

TOPIC TAGS: metal case hardening, alloy case hardening, impregnating medium, impregnating medium activation, impregnating medium activation agent

ABSTRACT: The Author Certificate introduces a method of case-hardening of metals and alloys in powder mixture. Metallic magnesium in the amount of 30 vol% is added to the mixture to activate the impregnating medium by reducing the oxidized powder surface. [WW]

ASSOCIATION: none

SUBMITTED: 29Nov63 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4050

Card 1/1 0

L 20627-66 EWP(k)/EWT(m)/T/EWA(d)/EWP(e)/EWP(t) IJP(c) JD/HW/JG/WB

ACC NR: AP6010100 SOURCE CODE: UR/0129/66/000/003/0062/0064

AUTHOR: Zemskov, G. V.; Mel'nik, P. I.

ORG: none

TITLE: Diffusion impregnation with beryllium

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1966, 62-64

TOPIC TAGS: iron, stainless steel, molybdenum, metal surface impregnation, beryllium impregnated iron, beryllium impregnated stainless steel, beryllium impregnated molybdenum impregnated layer structure, layer hardness, layer oxidation resistance/ Kh18N9T steel, ZhS6-K alloy

ABSTRACT: Commercial iron, Kh18N9T steel, ZhS6-K alloy, and molybdenum were impregnated with beryllium in a powder mixture containing 65%Be, 30%Mg, and 5%$MgCl_2$. The impregnation was done at 800—1250C for up to 14 hr. The thickness of the impregnated layer on all materials increased with increasing temperature and duration of the process. The microstructure of the impregnated layer on iron consisted of columnar crystals; the top portion consisted of an unetchable, white brittle layer of Be_2Fe_3iron beryllide with a hardness of 1400—1500; the next portion consisted of a solid solution of beryllium in α-iron and of iron beryllides along the grain boundaries and within grains. The transition zone consisted of a solid solution of beryllium in iron with a hardness varying from 470 to 150 along the thickness. The impregnated layer on

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L 20627-66

ACC NR: AP6010100

Kh18N9T steel had a hardness of about 750, which gradually decreased to about 100 along the layer thickness. The microstructure of the impregnated layer on the ZhS6-K alloy consisted of four zones. In the surface zone, which has a dispersed structure and a hardness of 1400, BeNi nickel beryllide and probably other unidentified beryllides are formed. The next zone, closer to the base, also has a dispersed structure and a hardness of 1135. The last two zones have an icicular structure and the same hardness of 600. The impregnated layer on molybdenum has two clearly defined zones: the surface zone, consisting of MoB_{12} compound with a harness of 2640—2040, and the lower zone, consisting of MoB_2 compound with a hardness of 2040—90. The beryllium-impregnated layers on iron, ZhS6-K alloy, and molybdenum exhibited an increased oxidation resistance in air at 800—1200C. The beryllium-impregnated layer on Kh18N9T steel did not improve the oxidation resistance of the steel, probably because of a low concentration of beryllium at the surface layer. Orig. art. has: 4 figures. [MS]

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS: 4224

Card 2/2

MEL'NIK, P. M.

Technology

Relay pretection on operative alternate current, Moskva, Gostekhizdat USSR, 1952

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

MEL'NIK, P.M.

Present status and prospects for the development of relay protection and automatic control on operative alternate current. Visnyk AN URSR 26 no.5:28-35 My '55. (MLRA 8:8)
(Electric networks)

MEL'NIK, P.M.

Investigating the action of relay contacts while dismounting the disconnecting coil of switch controllers. Avtomatyka no.3:78-84 '56.
(MLRA 9:11)

1. Akademiya nauk URSR.
(Electric relays)

MEL'NIK, P.M.

Using maximum current protection methods shunting a circuit-breaker trip coil by relay contacts. Visnyk AN URSR 27 no.6:43-45 Je '56. (MLRA 9:9)
(Electric circuit breakers)

MEL'NIK, P. M.

All-Union conference on problems in the utilization of alternating operative currents. Visnyk AN URSR 27 no.11: 49-54 N '56. (MLRA 9:12)

(Electric currents, Alternating)

MEL'NIK, P.M., kandidat tekhnicheskikh nauk.

Conference in Kiev on alternating current. Elektrichestvo no.1: 93-94 Ja '57. (MLRA 10:2)

1. Nauchno-organizatsionnyy otdel Akademii nauk USSR.
(Electric currents, Alternating)

MEL'NIK, P.M.

Scientific problems in the automation of production. Visnyk AN URSR 28 no.4:36-42 Ap '57. (MIRA 10:6)
(Automation)

KUL'VITS, P.; MEL'NIK, P.; ALEKSANDROV, V.

Our century is the century of automation. Radio no.7:6-8 Jl '58. (MIRA 11:9)

1. Zamestitel' predsedatelya sovnarkhoza Litovskoy SSR (for Kul'vits).
2. Direktor Instituta avtomatiki Gosplana USSR (for Mel'nik).
(Automation)

AUTHOR: Mel'nik, P. Director 107-58-7-4/43

TITLE: For the National Economy (Dlya narodnogo khozyaystva)

PERIODICAL: Radio, 1958, Nr 7, p 7 (USSR)

ABSTRACT: The Institute of Automation is applying its methods successfully in the metallurgical, coal chemical, oil, gas and power industries. It has successfully worked out automation equipment for registering 19 parameters, regulating 10, and controlling the whole smelting thermal process in open-hearth furnaces. The method is now being successfully applied in the Alchevskiy metallurgicheskiy zavod (Alchevsk Steel Plant). The Institute is now working on instruments and equipment for automation of the continuous casting process in the Stalin Steel Plant. This will eliminate the need for blooming and slabbing mills and will release 600 servicing personnel at each stage. Special electronic equipment is being devised for the Dneprovskiy Aluminum Plant. Using radiospectroscopy with nuclear and electronic resonance and carrying out activation analysis by exposing the substances to neutron beams, the equipment will make possible automatic computation of the concentration of dissolved components from the density, electric conductivity

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and viscosity values of the solution. The Institute is designing a new telemechanical system based on transistors and synchronous filter-generators with a wide application in power systems and industrial enterprises.

ASSOCIATION: Institut avtomatiki Gosplana USSR (The Institute of Automation of the UkrSSR Gosplan)

1. Industry--Automation--USSR 2. Industry--Automation--Economic aspects

MELNIK, P.

AUTHOR: Mel'nik, P., Candidate of Technical Sciences. 104-3-44/45

TITLE: Conference on questions of the use of a.c. operating currents. (Soveshchaniye po voprosam ispol'zovaniya peremennogo toka)

PERIODICAL: "Elektricheskiye Stantsii" (Power Stations), 1957, Vol.28, No.3, pp. 92 - 93 (U.S.S.R.)

ABSTRACT: This is an account of an All-Union conference held in Kiev in July, 1956 on the question of using alternating current to supply relay protective equipment, automatic telemechanical and remote control systems. The conference was organised by the protection section of the Transmission Commission of the Academy of Sciences of the USSR together with the Academy of Science of the Ukrainian SSR and the Moscow and Kiev district scientific technical societies of the power industry. The following subjects reports were read:
Prof. Fedoseyev, A.M. The main tasks of the conference.
Zeylidzon, E.D., Engineer - The conditions for theapplication of a.c. operating current.
Mel'nik P.M., Candidate of Technical Sciences - The present state and perspectives for the development of relay protection and power system automatic devices with a.c. operating current.
Tsarev, M.I., Candidate of Technical Sciences, Kazanskiy, E.V.

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Conference on questions of the use of a.c. operating currents. (Cont.)

Engineer, and Petrov, B.M., Engineer - Experimental and investigational work on a.c. operating current.
Gras' I.M., Engineer - Protection and automatics with alternating current supply in the Kievenergo power system.
Kashprovskiy, S.V., Engineer - Rectified supply for relay protection and automatic equipment.
Golubev, M.L., Eremin, E.A., Krasil'nikov, G.S., Kats, Z.D. and Yanovskiy, L.Ya, Engineers - Work on the introduction of a.c. operating current.

There was general agreement that a.c. operating current should be widely used; in some systems it has already been successfully used for a long time. The difficulties that are, however, encountered in certain circumstances are described and certain research institutes are not working on the subject as they should. The conference decided to recommend the use of a.c. operating current as being a very simple system. Individual supply and charging systems should be used primarily. The technical Directorate of the Ministry was recommended to plan and co-ordinate the development of the subject, to issue the corresponding instructions, to promote the development and manufacture of the necessary equipment.

104-3-44/45

Conference on questions of the use of a.c. operating currents. (Cont.)

AVAILABLE: Library of Congress

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MEL'NIK, P. M.
p. 2

PHASE I BOOK EXPLOITATION SOV/3778

Ukrainian SSR. Gosudarstvennaya planovaya komissiya

Avtomatizatsiya i priborostroyeniye; sbornik nauchnykh trudov, vyp. 1. (Automation and Instrument Making; Collected Scientific Works, No. 1) Kiyev, Gostekhizdat USSR, 1959. 107 p. 3,000 copies printed.

Ed.: V. Demskiy; Tech. Ed.: K. Gusarov; Editorial Board: P.M. Mel'nik (Chief Ed.), N.T. Zharov, G.S. Kryshtab, I.A. Orlov, (Resp. Ed.), L.A. Shoykhet, and N.V. Yarin.

PURPOSE: This collection of articles is intended for scientific and technical workers and for students of schools of higher education specializing in automation, telemechanics, and computing.

COVERAGE: The collection contains papers on the automation of metallurgical, chemical and power engineering and on the development of new instruments, telemechanical units, and a program control system for turret lathes. A bibliography on automatic analysis of solutions containing 86 items: 42 Soviet, 34 English, 5 German, 4 French and 1 Polish, is included. No personalities are mentioned.

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TABLE OF CONTENTS:

AUTOMATION OF INDUSTRIAL PROCESSES

MEL'NIK, P.M.

Objectives of the over-all automation of industrial processes. (MIRA 13:10)
Avtom.i prib. no.1:3-8 '59.
(Automation)

MEL'NIK, P.M. [Mel'nyk, P.M.], kand.tekhn.nauk

Automation of industrial operations. Nauka i zhyttia 9 no.7:6-10 Jl '59. (MIRA 12:11)

1. Direktor Instituta avtomatiki Gosplana USSR.
(Automation)

AKUTIN, G.K. [Akutin, H.K.]; GAYEVENKO, Yu.O. [Haievenko, IU.O.]; DYACHENKO, M.Ya.; ZHAROV, M.T.; IVANOV, S.K.; KARNYUSHIN, L.B.; KLODNYTS'KYI, I.I. [Klodnyts'kyi, I.I.]; KOBUS, Yu.Y. [Kobus, IU.I.]; KOZLYU, V.Y. [Kozliuk, V.I.]; KORYTNIKOV, V.P.; KOROBKO, M.I.; KOSTOGRIZOV, V.S. [Kostohryzov, V.S.]; LADIYEV, R.Ya. [Ladiiev, R.IA.]; MARTYNYUK, G.F. [Martyniuk, H.F.]; MEL'NIK, P.M.; kand.tekhn.nauk; NAVOL'NEV, S.Ya. [Navol'niev, S.IA.]; SIN'KOV, V.M.; SPINU, G.O. [Spynu, H.O.]; SHOYKHET, L.A.; SHUMILOV, K.A.; KORSAK, Yu.Ye. [Korsak, IU.IE.], red.; LAGUTIN, I.A. [Lahutin, I.A.], tekhn.red.

[Automation in industry] Avtomatizatsiia v promyslovosti. Kyiv, Derzh.vyd-vo tekhn.lit-ry URSR, 1960. 288 p. (MIRA 14:12)

(Automation) (Industrial management)

MEL'NIK, P., insh.

Automatic switch for transformers. Avt.transp. 38 no.2:54-55 F '60. (MIRA 13:6)
(Electric switchgear)

MEL'NIK, P.M., kand.tekhn.nauk

Some problem of the theory in connection with the objectives of the automation of production processes. Avtom.i prib. no.2:3-9 '61. (MIRA 14:12)

(Automation)

MEL'NIK, P. [Mel'nyk, P.], kand.tekhn.nauk

Machinery of our tomorrow. Nauka i zhyttia 11 no.1:27-29 Ja '62. (MIRA 15:2)

1. Direktor Instituta avtomatiki Gosplana USSR.
(Automation)

MEL'NIK, P.M., kand. tekhn. nauk, red., chasti, [illegible] red.

[Automation in power engineering] Avtomatizatsiia energe-
tiki. Kiev, In-t tekhn. informatsii, [illegible]. [illegible] t.
[illegible] 19 ?)

L 52303-65 EWT(m)/EWP(i)/EWP(t)/EWP(b) JD

ACCESSION NR: AP5008810 S/0080/65/038/003/0575/0579

AUTHOR: Pamfilov, A. V.; Mel'nik, P. M.; Panchuk, O. E. 16 15 B

TITLE: Bright nickel plating from electrolytes with additives

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 3, 1965, 575-579

TOPIC TAGS: nickel plating, electroplating, colloid

ABSTRACT: The effect which sulfur-containing and heterocyclic additives in nickel plating electrolytes have on the brightness and mechanical properties of nickel platings was studied. Composition of the electrolyte (in g/l) was: $NiSO_4 \cdot 7H_2O$--200, $NiCl_2 \cdot 6H_2O$--15, H_3PO_3--30. The specimens were mechanically polished and cathodically degreased. The plating thickness was 10 microns. The pH of the electrolyte was controlled potentiometrically. The process of electroplating was carried out isothermally within ±0.2°C. Addition of 0.025 to 1 gram per liter of sulfur-containing compounds such as: chloramine B, and Na-salts of 2,6- and 2,7-disulfonaphtenic acids along with such heterocyclic compounds as: pyridine, quinoline, and quinaldine produces very bright nickel platings directly from the

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L 52308-65

ACCESSION NR: AP5008810

electrolyzers. The platings also show satisfactory mechanical properties. Such platings were obtained at 0.5 to 7.5 a/100 cm^2, pH of the electrolyte 2 to 5, and temperature range of 25 to 55°C. The brightness improvement due to heterocyclic and sulfur-containing additives is explained in terms of stabilization of the colloidal nickel sulfide aggregates and their adsorption on the growing nickel plating. Such a process leads to very bright coatings. Orig. art. has: 3 figures and 3 tables.

ASSOCIATION: Chernovitskiy gosudarstvennyy institut (Chernovtsy State Institute)

SUBMITTED: 04Mar63 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 004

LL

Card 2/2

25662
S/080/60/033/012/021/024
D209/D305

1.1800 1087 1208 2210

AUTHORS: Trubman, S.V., Mel'nik, P.M., and Shr[illegible]ber, B.Ye.

TITLE: Shiny nickel-plating of small objects and articles in the presence of [illegible]admium salts

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 12, 1960, 2793 - 2795

TEXT: The best methods for the shiny nickel-plating of objects in the presence of cadmium have been studied by F. Pfanhauser (Ref. 1: Galvanotechnik, Leipzig, 1949), N.P. Lapin et al (Ref. 2: Zh. prikl. khimii, 9, 1260, 1936), G.S. Vozdvizhenskiy (Ref. 3: Zh. prikl. khimii, 20, 817, 1947) and many other scientists. But certain problems -- the friability of shiny nickel coatings, their yellow color, the nickel-plating of small objects -- still merit further consideration, so the authors carried out research on an electrolyte for preparing shiny nickel coatings in rocking-baths with the aim of recommending its general industrial application.

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The electrolyte composition and operating conditions are as follows: 200 g/l. $NiSO_4 \cdot 7H_2O$, 150 g/l, $Na_2SO_4 \cdot 10 H_2O$, 30 g/l, H_3BO_3, 15 g/l, NaCl, 5 g/l, NaF, 0.05 - 0.08 g/l $CdSO_4$ or 0.045 - 0.06 g/l $CdCl_2$; D_k = 0.6 - 0.7 A/dm^2, D_{vol} = 0.2 - 0.3 A/l, pH = = 5.2 - 5.8, T = 18 - 25°. The brightness and friability of the nickel deposit are controlled by the amount of added cadmium, by the purity of the electrolyte, whose content of Fe^+, Zn^{2+}, Pb^{2+} and Cu^{2+} should not exceed 0.05, 0.02, 0.0001 and 0.02 g/l respectively, and by the periodic adjustment of the operating conditions. The full amount of brightener is added twice at an interval of 30 - 40 minutes in the plating of uncurved articles. On becoming completely shiny they are removed from the bath and dried in a centrifuge and electric furnace after washing in cold water. Overexposure gives rise to the increased friability and diminished brightness of the plated objects, and the authors note that the luster of nickel is a function of the time of immersion in the bath. In the case of

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curved objects cadmium is added in three or four separate portions, the interval between the first and second increments being 30 - 40 minutes and then in accordance with the degree of brightening of their surfaces. Flat items require the full calculated amount of brightener, but this is decreased to the lower limit, or by 30 - 40 %, for cylindrical and spherical articles. The amount of cadmium is increased by 10 - 15 % when plating quite flat, uncurved products. The authors propose a special procedure in the case of continuously-operating galvanic plant and they also assert that the periodicity of working-up the bath depends on the volume of this latter, the weight of the plated objects and on the ultimate purpose of the resultant products. There are 1 figure and 4 Soviet-bloc references.

SUBMITTED: April 4, 1960

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S/080/62/035/004/019/022
D205/D301

AUTHORS: Pamfilov, A. V. and Mel'nik, P. M.

TITLE: Internal stresses in electrolytic cadmium sediments

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 911-913

TEXT: This work reports the results of stress measurements in cadmium sediments from acidic baths. The internal stresses were measured by the elastic cathode method and computed by the modified Stoney's method. The cathode potential was measured by a cathodic voltmeter using a reference calomel electrode. The pH of the electrolyte was measured potentiometrically. Thickness of the sediment was of the order of 10 μ. The bath was thermostatically maintained at 15, 30 and 45°C and its composition was (in g/l): CdO-19, $KHSO_4$-45, $(NH_4)_2SO_4$-10. The sediments consisted of bright, large crystals. It is shown than an increase of bath temperature decreases stresses in the sediments; with the increase of the current density the stresses pass through a maximum at all temperatures. The sediments

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which show the highest stresses are the most dense and homogeneous. With the addition to the bath of 'chloramine B' (2 g/l) or of disulphonaphthoic acid (1 g/l) the sediments become lighter and less lustrous and the crystals become smaller. The internal stresses are not changed by these additions. In the presence of 1 g/l of gelatine and 11 g/l of caramel sugar the addition of sodium ß-naphthalene sulphonate and of 2,6 - 2,7 disulphonaphthoic acid increases the internal stresses while the addition of 'chloramine B' has an opposite effect. The best luster is achieved at noticeable hydrogen evolutions. While increasing pH in the usual bath lowers the internal stresses, in the case of a composite bath the stresses achieve a maximum at pH corresponding to the isoelectric point of gelatine. As the internal stresses are compression stresses an increase in the volume of the sediment obviously takes place during the electrolysis. This is probably caused by the occlusion of hydrogen. The total gas content of the sediments as determined by vacuum removal, is of the order of 20 ml/100 g of metal. There are 4 figures, 1 table and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as

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follows: R. H. Barclie and B. H. Davies, The Eng., 150, 670, (1930); G. G. Stoney, Proc. Roy. Soc., 82, 172, (1909); E. Y. Mills, Proc. Roy. Soc., 26, 504, (1877).

ASSOCIATION: Kafedra fizicheskoy khimii Chernovitskogo universiteta (Department of Physical Chemistry of the University of Chernovits)

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S/080/62/035/010/006/012
D204/D307

AUTHORS: Pamfilov, A.V. and Mel'nik, P.M.

TITLE: The effects of additives on the internal stresses in electrolytic nickel coatings

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 10, 1962, 2272-2275

TEXT: The internal stresses were measured in 10 thick Ni coatings deposited from (A) $NiSO_4 \cdot 7H_2O$-245, NaCl-5, H_3BO_3-30, (B) $NiSO_4 \cdot 7H_2O$-200, $Na_2SO_4 \cdot 10H_2O$-150, H_3BO_3-30, NaCl-5, NaF-5, (C) $NiSO_4 \cdot 7H_2O$-293, $NiCl_2 \cdot 6H_2O$-12, H_3BO_3-30, (D) $NiSO_4 \cdot 7H_2O$-200, $NiCl_2 \cdot 6H_2O$-15, H_3BO_3-30, the concentrations being in g/l. At pH 4 and 20 - 40°C, the stresses passed through a minimum when the current density (D) was ~ 1.5 - 2 a/dm^2; under these conditions luster-promoting Zn and particularly Cd salts increased the internal contraction stresses, when added in amounts of 0-3 g/l. At 25°C, pH

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4 and D = 1 a/dm^2, the stresses increased with increasing concentration of Cd and Zn, to a maximum of ~ 3850 kg/cm^2 with bath (A) containing ~ 0.7 g Cd or ~ 2.3 g Zn per liter. Fracture and peeling of the coatings occurred when 0.6 and 3 g/l of Cd and Zn respectively were added to the bath. In the absence of additives the stresses were decreased at higher temperatures and fell linearly with decreasing D. The effects were also studied of (1) aniline sulphate, (2) anisidine sulphate, (3) the Na salt of diphenylamine sulphonic acid, (4) sulphanilic acid, (5) disulphonaphthoic acid with quinoline, and (6) various sulphamides. Additives (1) and (2) (0.1 to 0.7 - 1 g/l) gave rise to dull, very highly stressed coatings. Lustrous deposits were obtained, at 25°C, pH 4 and 1 a/dm^2, in the presence of red streptocid and norsulphazol. [Abstracter's note: Compounds unfamiliar] and particularly with norsulphazol with quinoline, added in quantities of 0.1, 0.2 and 0.025 g/l respectively, with stresses of the order of 3000 kg/cm^2; slight stress reduction was observed with (3) and (4), the luster being poor. Additives (5), albucid, and chloramine B (at ~ 0.5 - 4 a/dm^2, 25°C, with bath (D)) tended to reverse the initial expansion stresses

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into stresses of contraction, as D was increased; these coatings showed a good luster. The results are discussed. There are 6 figures.

ASSOCIATION: Kafedra fizicheskoy khimii Chernovitskogo universiteta (Department of Physical Chemistry, Chernovtsy University)

SUBMITTED: July 3, 1961

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MEL'NIK, P.M.; SHREYBER, B.Ye.; TRUBMAN, S.V.

Cold chrome plating of machine parts. Zhur.prikl.khim. 36 no.3: 670-671 My '63. (MIRA 16:5)
(Chromium plating)

GOLEMBIOVSKIY, Pavel Semenovich, inzh., GRES', Ivan Mitrofanovich, inzh.; MALAKHOVSKIY, Yevgeniy Ivanovich, inzh.; MEL'NIK, Pavel Matveyevich, kand. tekhn. nauk; SINEL'NIKOV, Vladimir Yakovlevich, inzh.; PETROV, S.Ya., inzh., retsenzent

[Relay protection and automatic control devices using operative a.c.] Releinaia zashchita i ustroistva avtomatiki na peremennom operativnom toke. [By] P.S.Golembiovskii i dr. Kiev, Tekhnika, 1964. 409 p. (MIRA 17:10)

NAKHODKIN, N.G.; MEL'NIK, P.V.

Photoeffect in the region of soft X rays. Radiotekh.i elektron. 6 no.7:1209-1210 Jl '61. (MIRA 14:6)

1. Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko.
(Photoelectricity) (X rays)